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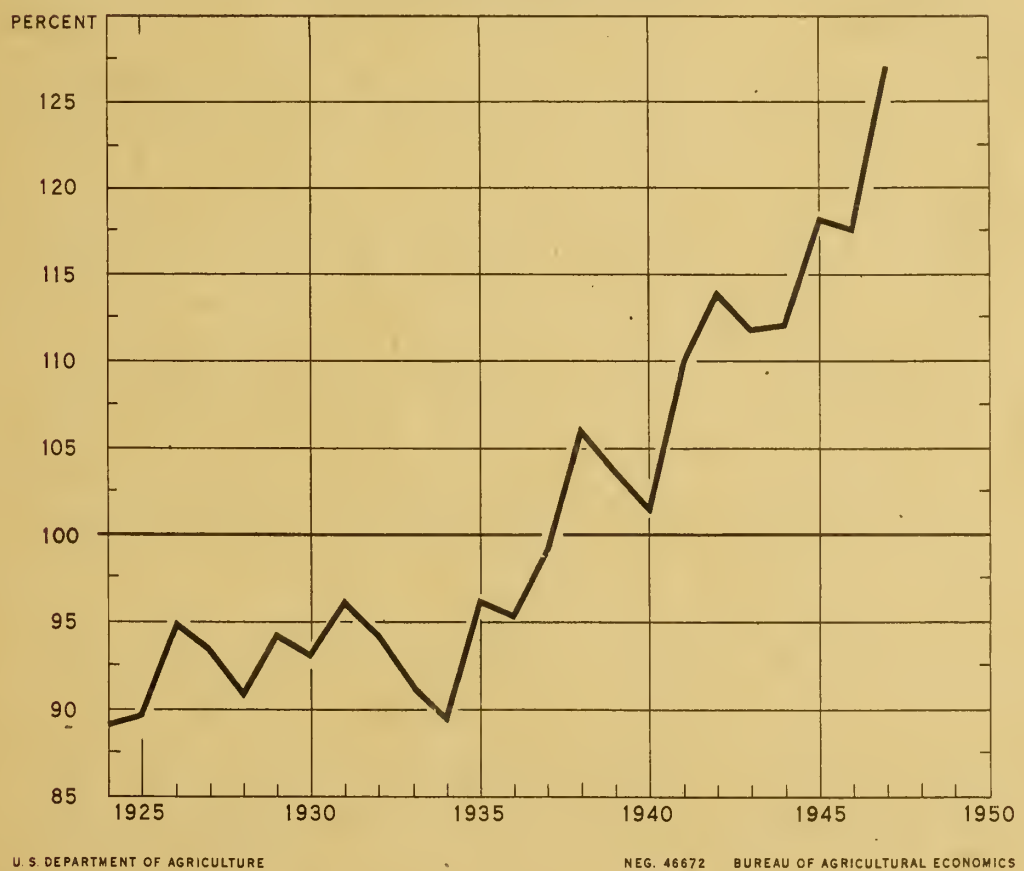
CHANGES IN FARM PRODUCTION OF CHICKENS AND EGGS, 1924-48

RATE OF LAY PER HEN AND PULLET ON FARMS, JANUARY 1, UNITED STATES, 1924-47

INDEX NUMBERS (1935-39=100)



U. S. DEPARTMENT OF AGRICULTURE NEG. 46672 BUREAU OF AGRICULTURAL ECONOMICS

June 1948

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CHANGES IN FARM PRODUCTION OF CHICKENS AND EGGS, 1924-48

By Berryman R. Hurt, Agricultural Economist 1/

INTRODUCTION

Tremendous forces which have changed American agriculture since the 1920's have had pronounced influence on the production of chickens and eggs. Adoption of improved technology for the poultry enterprise has been remarkably rapid throughout the period. Impacts of wartime and postwar conditions have been greater in connection with chickens and eggs than on many other commodities and these impacts are many.

This report focuses attention on the long-time changes in the poultry enterprise with particular reference to national and regional trends. It assembles and classifies readily available statistics concerning farm production of chickens and eggs and related factors for the period 1925-48. The analysis represents a preliminary phase in a broader study designed to give a better understanding of past changes in production and future prospects for the poultry enterprise in each of the major producing regions. Additional work is proceeding on further phases of the broader study.

Knowledge of important over-all changes in the production of chickens and eggs, in seasonality of egg production, in rate of egg production per hen, and in distribution of flocks by size and type, provides a general background. It will serve as a guide for the collection and analysis of related data that will explain what has been happening and indicate what may happen in the chicken enterprise on representative groups of farms with respect to size of flock, progress in the adoption of improved production technology, and the place of chickens in the organization of the farm.

NUMBERS OF CHICKENS ON FARMS

From the standpoint of income, eggs form the most important product that comes from the keeping of chickens on farms in this country. For the country as a whole, gross farm income from eggs in recent years has averaged about 60 percent higher than the gross income from chicken meat (including that from broilers). In an examination of changes in chicken and egg

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1/ Olav F. Anderson, formerly with the Bureau of Agricultural Economics, assisted in the early work on this report. Sources of the data are the agricultural estimates reported regularly by the Bureau of Agricultural Economics and the U. S. Census of Agriculture 1945, Special Report Sample Census. The work represented by this publication was supported in part by the Bankhead-Jones Special Research fund.

production, discussion might well begin with study of past trends in egg production, but for convenience this report starts with the changes in the number of chickens in farm flocks.

Changes in Size of National Farm Flock

Numbers of all chickens (excluding commercial broilers) on farms January 1 increased during the late 1920's until a peak of 475 million was reached at the beginning of 1928. This number was not equaled again until 1942. Contraction got under way during 1928 and by the end of that year numbers had been reduced to 449 million (fig. 1).

As a whole, the 1930's were marked by a further cutting back of numbers of all chickens kept on farms. For the 1930-34 period, average numbers on the first of the year stood at 447 million. This was reduced to 405 million in the following 5-year period. Droughts in 1934 and 1936 created feed shortages and other farming situations that could be met only by some reduction in livestock and poultry.

But then the demand for huge quantities of eggs and meat during World War II and favorable price relationships stimulated astounding increases in numbers of chickens. At the beginning of 1941, all chickens on farms totaled 423 million; at the beginning of 1944 the total had reached the all-time high of 582 million. During 1944 returns from eggs became less favorable and farmers began reducing their flocks. By the end of that year there were 66 million fewer chickens on farms than at the beginning. In the following year flocks were rebuilt some. But the new level of numbers reached by the end of 1945 was not held. Reductions occurred in both 1946 and 1947. On January 1, 1948, there were only 80 percent as many chickens on farms as in 1944.

Hens and pullets usually account for about nine-tenths of all chickens on farms of the United States at the first of the year. Cockerels, fryers, and other kinds of chickens make up the other 10 percent. (Commercial broilers are not included.) During the last half of the 1920's the hens and pullets on farms January 1 averaged 406 million.

Hens and pullets also reached an all-time high in numbers during the war. The record of 524 million at the beginning of 1944 was 44 percent above the average for the 1935-39 period. For the 5 years, 1940-44, numbers averaged approximately one-fifth higher than during the preceding 5 years. The number of hens and pullets on farms likewise was reduced from the first of 1944 to 1948. At the beginning of 1948 there were 82 percent as many hens and pullets as of January 1, 1944.

As a rule, year-to-year changes in the number of hens and pullets on farms are in the same direction as changes in the number of chickens raised. The number raised during 1924-28 averaged approximately 702 million; in the 1939-43 period, about 784 million or 12 percent more. Hens and pullets on

ALL CHICKENS: NUMBER ON FARMS JANUARY 1, UNITED STATES, 1924-48

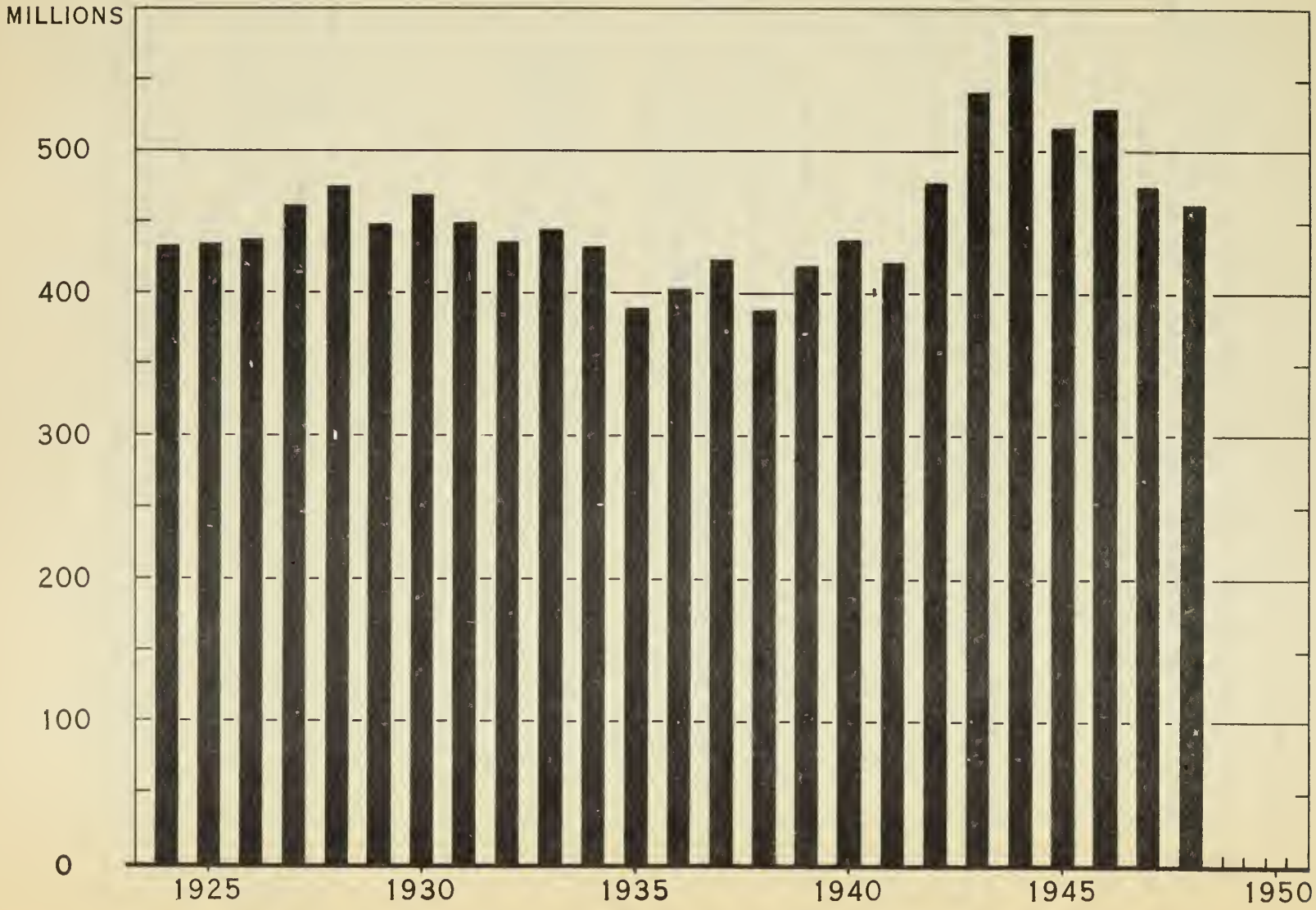

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FIGURE 1

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farms during these periods increased from an average of 406 million to 443 million, or 9 percent. The percentage change in the number of chickens raised from one year to the next is about double, on the average, the percentage change in the number of hens and pullets for the same years.

The number of chickens raised on farms reached a record of 1,001 million in 1943, 58 percent above the 1940 number. Changes in number raised since 1943 have been downward, except in 1945. The 745 million raised in 1947 represented a reduction from the 1943 peak of 26 percent.

Regional Trends in Numbers of Chickens

Regional differences in farm production or in trends in livestock and poultry numbers may be examined in any one of several ways, so far as the make-up of the regions is concerned. In this report reference is made to 10 regions. Even though each region is made up of States having fairly similar production conditions for chickens and eggs, some differences exist between areas within some of the regions. The 10 regions and the States comprising them are:

1. Northeast--the New England States, New York, New Jersey, and Pennsylvania.
2. Appalachian--Delaware--Maryland, Virginia, West Virginia, North Carolina, Kentucky, and Tennessee.
3. Corn Belt--Ohio, Indiana, Illinois, Iowa, and Missouri.
4. Lake States--Michigan, Wisconsin, and Minnesota.
5. Northern Plains--North Dakota, South Dakota, Nebraska, and Kansas.
6. Southern Plains--Oklahoma and Texas.
7. Mississippi Delta--Mississippi, Arkansas, and Louisiana.
8. Southeast--South Carolina, Georgia, Florida, and Alabama.
9. Mountain--Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, and Nevada.
10. Pacific--Washington, Oregon, and California.

All Chickens

The Northeast has occupied a rather distinct position with respect to changes in the number of all chickens on farms (table 1). The number of all chickens on hand in that region at the beginning of the year averaged about one-third more during 1940-44 than in 1925-29. This represented a greater rate of expansion than took place in any of the other regions over the same period. The expansion developed without such extreme cut-backs as had been made in other parts of the country although there was some slowing down during the early 1930's. Within the region, the increase was relatively greater in the New England States and in New Jersey than in New York and Pennsylvania.

Although average 1940-44 numbers of all chickens in the regions designated as Lake States, the Southeast, the Mississippi Delta, and the Southern Plains, exceeded those for 1925-29 by 20 to 25 percent, the expansion did not develop uniformly over the 20-year period. Except in the Southern Plains, numbers remained relatively stable until the 1940's, when they increased. In the Southern Plains the number expanded from 1925-29 to 1930-34, but was reduced during the 1935-39 period to a level below that of 1925-29.

Fewer chickens, on the average, were on farms of the Corn Belt and Northern Plains during 1940-44 than during the 5-years 1925-29. Lower average numbers in Indiana, Illinois, Missouri, and Kansas accounted for this situation.

The number of all chickens on farms of the Appalachian, Mountain, and Pacific regions averaged higher during 1940-44 than during 1925-29, but in each region the numbers were lower during the 1935-39 period than in the early thirties.

During World War II the numbers of all chickens on farms increased in all regions. They reached a wartime peak at the beginning of 1944 in all States. 2/ When compared with average 1935-39 numbers, the highest wartime rate of increase is shown for the Northern and Southern Plains. In these two regions the numbers on January 1, 1944 were higher than the average prewar numbers by as much as 59 to 62 percent. In only three regions--the Appalachian, Corn Belt, and Pacific--were 1944 numbers less than 40 percent above the average for 1935-39. Expansion was least in the Pacific region where it was about 25 percent.

Relatively heavier downward adjustments were made during 1944 in the Delta and Mountain regions than elsewhere. In these two regions the number of all chickens on farms January 1, 1945 was about one-sixth smaller than a year earlier. The decline in the Northeast and in the Lake States was approximately 8 percent--the smallest of all the regions.

Fewer chickens were on farms in each of the regions at the beginning of 1948 than on January 1, 1944. Changes, however, were not uniform among regions during the period. In four regions--the Northern and Southern Plains, the Delta and the Mountain--the reduction in numbers from 1944 was not interrupted by a temporary increase in 1946 such as occurred in the other regions. The change was greatest in these four regions, the decrease amounting to from 25 to 33 percent. Least reduction in numbers occurred in the Northeast, the Lake States, and Pacific regions where numbers were smaller by only 11 to 14 percent.

2/ The wartime record of all chickens on farms represented for most States an all-time record. But in Delaware, Illinois, Missouri, Kansas, Washington, and California, the all-time record was established in the late 1920's or the early 1930's.

Hens and Pullets

Long-time relative changes in regional numbers of hens and pullets on farms have been similar to relative changes in numbers of all chickens (table 2).

Changes have occurred since the middle 1920's in the regional distribution of the national laying flock. Five regions--Northeast, Lake States, Southern Plains, Mississippi Delta, and Southeast--had as large or a larger share of January 1 numbers of hens and pullets during 1940-44 as in any earlier 5-year period beginning in 1925 (table 3). The Mountain region had nearly as large. Ground was lost by each of the remaining regions--Appalachian, Corn Belt, Northern Plains, and Pacific (fig. 2). The greatest reduction was in the Corn Belt.

Compared with the situation during the 1940-44 period, the Northeast, Lake States, and Pacific regions increased their shares of the national total of hens and pullets by 1948. The share of the Pacific region was no greater, though, than during the first part of the 1940-44 period and was less than in earlier periods. Its share has decreased since earlier periods but one-fourth of the hens and pullets on farms of the United States were in the Corn Belt at the beginning of 1948.

Chickens Raised

Compared with other regions the Corn Belt looms large with respect to the number of chickens raised in conjunction with the maintenance of farm laying flocks (table 4). Twice as many are now raised there as in any other one region. It accounts for one-fourth of the chickens raised on farms in the United States.

The Southeast is not a heavy contributor to the national production of farm chickens but it accounts for relatively more of the chickens raised in the country than it does of hens and pullets kept on farms. The Appalachian region, too, is relatively more important from the standpoint of the number of chickens raised than from hens and pullets kept. This is shown also in the ratio between the number of chickens raised and the number of pullets on hand the following January. In the Appalachian and Southeast regions, 3 to 4 times as many chickens are raised as the number of pullets added to the laying flocks in the fall. In contrast, the ratio is approximately $2\frac{1}{2}$ to 1 for the Corn Belt and New England. Relative to the number of chickens raised, growing birds for meat rather than for layers is a more important part of chicken production in southeastern United States than in New England and the Corn Belt.

HENS AND PULLETS: NUMBER ON FARMS JANUARY 1, UNITED STATES AND REGIONS, 1924-48

INDEX NUMBERS (1935-39=100)

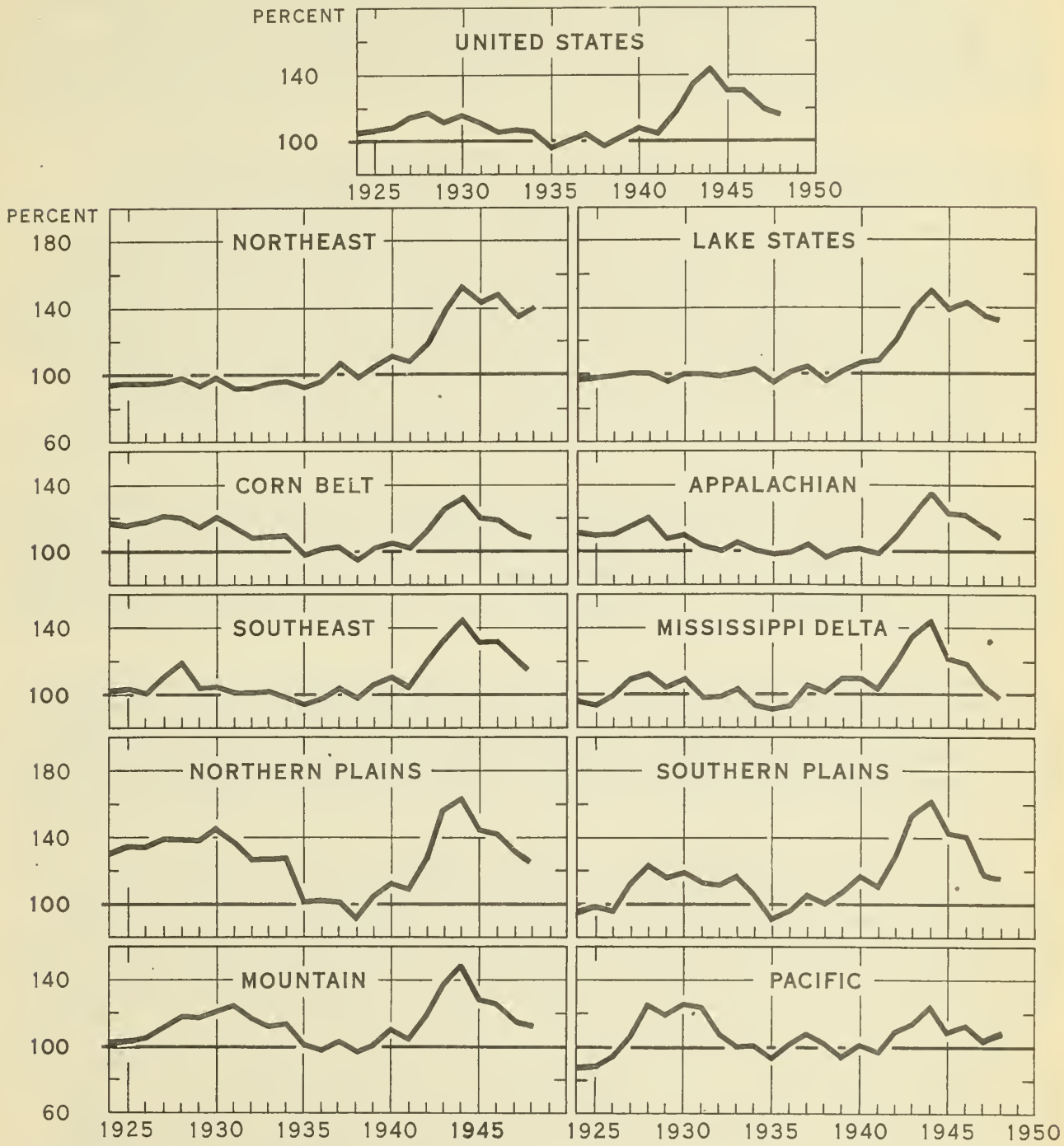

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FIGURE 2

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Relative Importance of Chickens to Agriculture of the Regions

Interregional competition in the production of a particular farm commodity originates in the relative returns to farmers in different regions from alternative lines of production. A change in the pattern of relative returns from alternative enterprises within one region may modify the entire structure of competition between regions.

A thorough analysis of production alternatives open to farmers in different regions and their relationship to interregional competition in chickens and eggs is not made at this point. But it seems worth while to examine the relative importance of chickens to the over-all production of livestock and poultry in each region. This is done here by considering the relative importance of chickens as users of concentrate feeds. By using this method emphasis is placed upon one of the "inputs" required in livestock and poultry production, namely feed. In contrast, the use of cash farm income from chickens and eggs in relation to total cash farm income from all livestock and livestock products, although an effective way to measure the relative importance of chickens, puts emphasis upon the production or "output" of the enterprise.

When livestock and poultry numbers are converted to grain-consuming animal units, it is found that chickens, including commercial broilers, accounted for 23 percent of all grain-consuming livestock and poultry on farms during the period 1925-29 (table 5). 3/ The percentage was slightly less during the early thirties, but increased a little during the late thirties and early 1940's to a level slightly above that for 1925-29.

During World War II, 43 percent of the grain-consuming animal units on farms of the Northeast represented chickens. The proportion was even higher for New England alone. Nowhere else did chicken and egg production make up such a considerable part of the wartime livestock and poultry production of a region. The production level was about one-fifth higher in wartime than in 1925-29.

Outside of the Northeast, only in the Pacific region have chickens accounted for more than one-third of the total grain-consuming animal units. But there the relative importance of chickens has decreased. During the last half of the 1920's, 46 percent of the total grain-consuming animal units represented chickens. From this record point, the highest for any region to date, the proportion gradually declined to the wartime position of 37 percent.

Chickens form a noteworthy segment of the grain-consuming animal units of the Appalachian region. They represented just under one-third of all units in the 1940-44 period--slightly higher than during earlier years. But during 1940-44, commercial broilers, concentrated mostly in Delaware, Maryland, and Virginia, accounted for about one-fifth of the grain-consuming animal units

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3/ As used in this report, grain-consuming animal units are based upon the consumption of all concentrates, not grains alone.

represented by chickens. In no other region were commercial broilers so great a part of the over-all chicken- and egg-producing enterprise on farms.

It will be remembered that the Corn Belt accounts for a fourth of both the national laying flock and chickens raised on farms. But within that region chickens are relatively minor in the combined livestock and poultry industry. During the late 1920's they accounted for 20 percent of all grain-consuming animal units in the Corn Belt and in the 1940-44 period the proportion was about 18 percent.

PRODUCTION AND CONSUMPTION OF CHICKEN MEAT

Total production of chicken meat in the United States is a composite of the meat production of farm and non-farm flocks and of commercial broilers. Of prime importance to each category is the number of chickens involved. Since non-farm production is handled as equivalent to a given percentage (currently 10 percent) of farm production, it is secondary to total production.

Trends in the number of chickens raised on farms have been examined, but the availability of chicken meat for non-farm consumers depends also upon the flow of chickens to markets. During 1925-29, an average of 421 million were sold annually from our farms (table 6). The number grew during the following 5 years, but was cut back sharply during 1935-39, as farmers adjusted their production to drought-created conditions. The wartime expansion of farm production of chickens led to the marketing of record numbers. An average of 514 million birds were sold from farms each year during the 1940-44 period, with a record of 683 million marketed in 1943.

The Corn Belt supplied 27 percent of the chickens sold from farms during the war. But there is a distinct difference between the regional patterns of farm-chicken production and sales of chickens from farms. Farm families in much of the Appalachian region and in the Southeast, the Mississippi Delta, and the Southern Plains consume a larger part of the chickens they raise than do families elsewhere, so farmers in southern and southeastern regions account for a smaller relative share of the total sales of farm chickens than they do of the national production of farm chickens.

Chickens marketed from farms are heavier today than 15 years ago. Beginning at an average weight of 3.8 pounds liveweight per bird sold during 1930-34, the average weight moved up to 3.9 pounds for 1935-39, and on to 4.2 pounds in the 1940-44 period. This meant that the average of 514 million birds sold annually from farms during 1940-44 carried 206 million pounds more weight than the same number would have if marketed during the early thirties. Average liveweight per bird sold in 1946 and 1947 was 4.3 pounds.

Basic to the increase in the average liveweight of marketed farm chickens has been a shift from light-weight to heavy-weight breeds of chickens in most areas. Improved methods of feeding the laying and replacement flocks on many farms, and generally improved sanitation and more rigid control of disease have also contributed to heavier birds.

The production of commercial broilers started some 20 years ago through a demand in some eastern markets for more chicken meat, as well as for freshly killed chickens in off-seasons of farm production. In 1934, the first year for which reliable nation-wide statistics are available, 34 million commercial broilers were produced (table 7). Since then, production has increased tremendously. In 1945 it totaled 346 million, the largest output on record. At an average weight of 2½ to 3 pounds per bird, about a billion pounds were added to the Nation's meat supply.

Although commercial broilers are produced in nearly all States, and are grown in considerable volume in three-fourths of the States, production is mostly concentrated in the Appalachian region. During 1940-44 about half of the country's yearly average of 222 million commercial broilers were raised there. Frequently it is not a supplementary farm enterprise, but rather a specialized business that is the sole source of the operator's income.

Total output of chicken meat from all of these sources averaged 3.3 billion pounds annually during 1940-44 (table 8). This compares with an average of about 2.4 billion pounds during the preceding 15 years.

During World War II the output of chicken meat reached an all-time high record. Total production of 4.1 billion pounds in 1943 was exceeded slightly 2 years later. Since 1945 production has fallen. Output in 1947 was 3.4 billion pounds.

Normally, the total national consumption of chicken meat by the civilian population is about equal to the annual production. But a gap appeared and widened during World War II when chicken was procured for military purposes. Chicken was not an important item in lend-lease operations.

Civilian per capita consumption of chicken meat has shown no long-time tendency to increase or decrease. The average quantity of 20 pounds of chicken consumed per person, per year, during 1925-29 was the same as in the earlier period of 1910-14. The lowest average rate occurred during the last half of the 1930's when droughts disturbed the farming and reduced the volume of production at a time when consumer incomes were low.

Civilians of the United States consumed chicken at a higher average rate per person during World War II than at any other time. Average per capita consumption was highest in 1943, nearly 31 pounds, an increase above the prewar 1935-39 period of 71 percent. The average consumption of red meats--pork, beef and veal, and lamb and mutton--in 1943 was about 139 pounds per person; not so high as in 1940 and 1941, and only 10 percent above the annual average amount of 126 pounds consumed per person in 1935-39.

EGG PRODUCTION ON FARMS

National Trends

Before 1940, the most eggs ever produced on our farms in a single year was approximately 39 billion. That output was reached in 1930. It marked the high point of a strong upward trend which took place during the 1920's. The short feed crops of the drought years, meant fewer eggs during the middle 1930's and even in 1939 egg production was not quite equal to that of 1930.

In 1940, 39.7 billion eggs were produced on farms. Continuing through 1944, the total was increased each year. Laying flocks established the all-time record in 1944 with an output of 58.5 billion eggs; this was 61 percent above the average of the 1935-39 period. Average annual production during 1940-44 exceeded that for the preceding 5-year period by a third. Production of eggs declined following 1944. The output in 1945 was 4 percent below that of 1944. Additional minor decreases occurred in 1946 and in 1947.

Meanwhile shifts were taking place in the seasonality of egg production. Farmers and poultrymen have increased the proportion of annual production coming in the fall and early winter. In the 1925-29 period, the total production in the 3 months, October through December, was but 12 percent of the entire year's output of eggs. In 1947, the proportion stood at 19 percent. More and more farmers and poultrymen have started chicks earlier and have fed the laying flocks better in order to get more eggs during the winter when prices are higher.

Both patriotism and the very favorable returns encouraged expansion of the chicken enterprise while the war was on. During the 5 years 1940-44, producers received an average weighted price of about 28 cents for each dozen eggs they sold. This was a good one-third more than they had received, on the average, during the preceding 5 years. They had substantially higher prices for chickens as well. The average weighted price of 19 cents a pound received during 1940-44 was more than one-fourth higher than the average they received during the 1935-39 period.

But the higher prices for eggs was only a part of the story. How the costs of keeping laying flocks and raising chickens behaved was an influential element, too. The fact that there were relatively greater increases in the prices that farmers and poultrymen received for their eggs and chickens than in the costs involved in producing the larger volume had a striking effect.

At the start of the war there was much partly used and some unused equipment and building space suitable for producing chickens and eggs on the farms. Expansion of the chicken enterprise, or perhaps the establishment of a chicken enterprise, was often possible without adding to the building and equipment. The additional work in handling larger flocks was usually done

by the family. To the extent that this was true, expenditures for labor were not increased, although from a strictly bookkeeping viewpoint the labor bill chargeable to chickens would be somewhat larger.

Feed costs were low relative to prices received for eggs and chickens in the early years of the war. As feed is a major item of cost in the production of chickens and eggs, this favorable relationship stimulated greater output.

Differences in Regional Production

Farm production of eggs has expanded in all the regions since 1925 (table 11). On the basis of long-time production trends the regions fall into four rather distinct groups. In one group are those that experienced a strong, continuous expansion of egg production; the Northeast and Lake States belong here. In another group, the largest, are the regions in which egg production dropped off after the late 1920's, not to return to average pre-depression and pre-drought totals until 1940-44; the Appalachian, Corn Belt, Northern Plains, Southern Plains and the Southeast regions make up this group. The third group--the Mountain and Pacific regions--had a stable or upward production trend except during the last half of the 1930's. The Mississippi Delta, alone, constitutes a fourth group; there the trend in egg production was stable or upward, except during the early 1930's.

Average annual production of eggs in the Northeast and in the Lake States increased 63 and 58 percent, respectively, between 1925-29 and 1940-44. In no other region did such an expansion take place. In fact, with the exception of the Southern Plains (where there was an expansion of 40 percent) no region increased egg production by half as much. The increase in the Corn Belt was 20 percent. The Appalachian and Northern Plains showed the least long-time expansion; each had an increase of 7 percent and the Pacific had a step-up of 10 percent (fig. 3).

The output of eggs in the Northeast, more than in other regions, has been influenced strongly in recent years by the development of specialized production for hatching purposes. A large volume of New England eggs is produced for hatcheries that supply chicks to the commercial broiler producers located along the eastern seaboard. Producers of these hatching eggs have problems in production and marketing that are different from those of producers of "table" eggs.

Changes in regional egg production during the war did not conform to long-time trends. Production expanded in every region. In each region, except the Lake States, the highest production was reached in 1944 to be followed by a decline in 1945; the 1944 output in the Lake States was equaled again in 1945.

EGGS: NUMBER PRODUCED ON FARMS, UNITED STATES AND REGIONS, 1924-47

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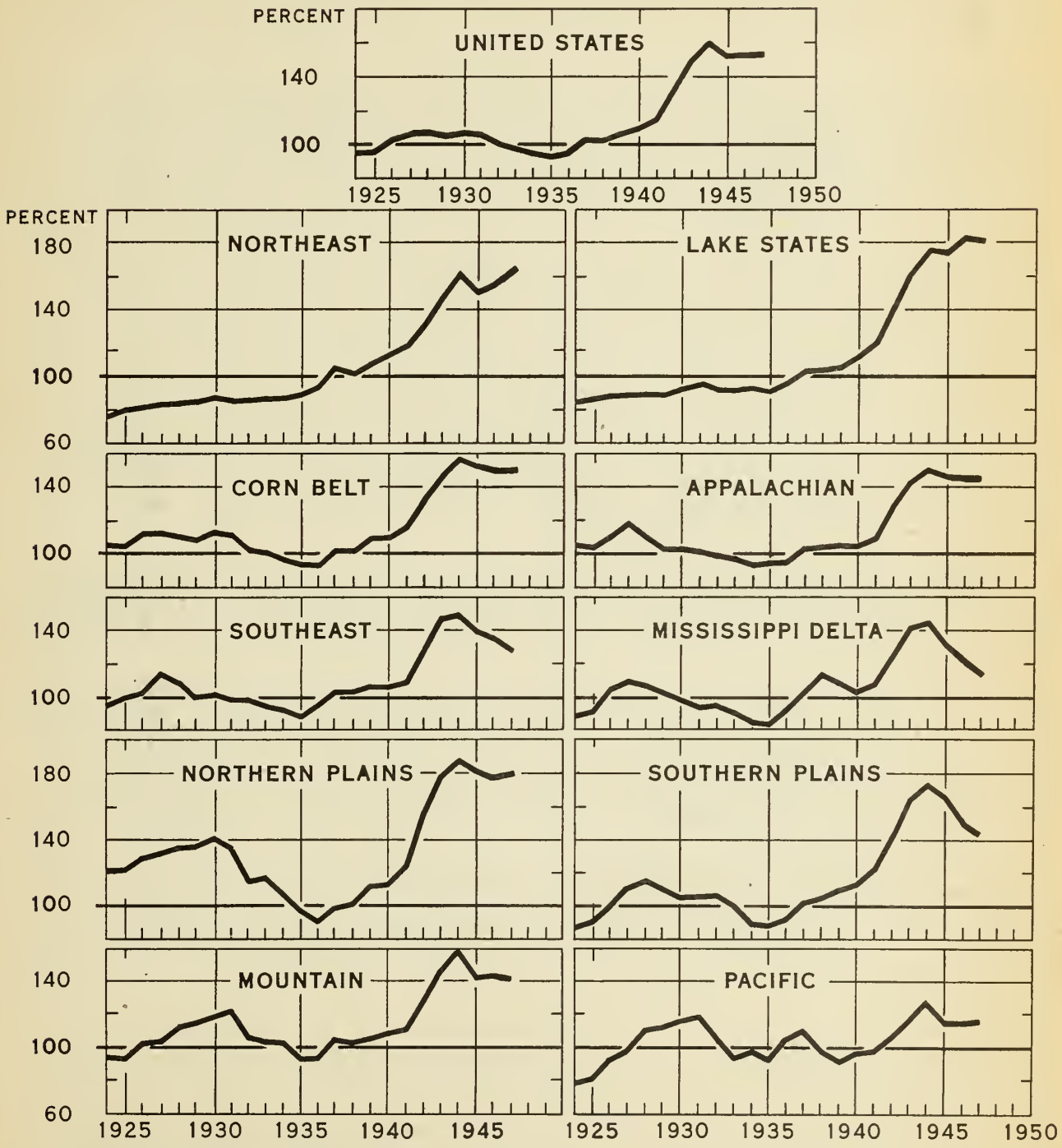

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FIGURE 3

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Where long-time expansion had been small, wartime expansion was often largest, but sometimes the opposite was true. Thus, the Northeast, producing for the tremendous nearby retail outlets and for hatcheries that took a large volume almost the year around, increased its production only 43 percent from 1940 to 1944. This was in contrast to what happened in the Lake States where the total was stepped up 56 percent over the same period.

The wartime expansion rate in the Lake States was duplicated in the Southern Plains but the rate was exceeded in the Northern Plains. There the increase was 64 percent from 1940 to 1944. This was the greatest increase in any region, but a part of it represented recovery from the low level of the 1930's. Not until 1942 did the output of eggs in this region exceed production of pre-drought years.

In the Corn Belt the production of eggs on farms increased 44 percent between 1940 and 1944--about as in the Northeast. In the Pacific region the expansion from 1940 to 1944 was the least of any region--33 percent.

The decline in egg production that took place in all regions, except the Lake States, in 1945, was followed by further reductions through 1947 in one-half of the regions. These regions were the Appalachian, Corn Belt, Southern Plains, Mississippi Delta, and Southeast. In contrast, production in the Northern Plains, Mountain, and Pacific regions was the same in 1947 as in 1945. And the 1947 output of eggs in the Northeast and Lake States regions was larger than 1945 production.

To get a better picture of the way in which regional production of eggs has been shaping up, some other features are examined. Table 12 shows the share of the national farm output of eggs that has come from each of the regions.

If the Corn Belt's 26 percent of all eggs produced on farms during World War II is added to the production of the neighboring Lake States, nearly two-fifths of the wartime production of eggs in the United States are accounted for. In the late 1920's the Corn Belt produced 28 percent of all eggs coming from farms and the Lake States 10 to 11 percent. The proportion produced in the Lake States in 1947 was 14 percent.

Other changes have taken place. The Northeast pushed ahead slowly but rather steadily, increasing its share from 12 to 15 percent from 1925-29 to 1940-44 and on to 16 percent in 1947. The Pacific region continued its trend toward a decreasing share of national egg production that got under way during the late 1930's.

All regions have increased the relative volume of eggs produced during the "high-price months"--October through December (table 13). However, the proportion of the 1947 output of eggs produced during this 3-month period in the Northern Plains, Southern Plains, Mississippi Delta, and Southeast regions was less than the 16.5 percent of the average 1925-29 annual egg production of the Pacific region that came in this early winter period. The most rapid progress in increasing the relative volume of eggs produced during the last quarter of the year has been made in the Northeast and Lake States. In these

two regions the proportion of yearly egg production coming in this quarter was increased between 57 and 65 percent from the late 1920's to 1940-44. In the other regions, only in the Corn Belt did the increase amount to more than one-third, but less than one-half, over the same number of years.

CONSUMPTION OF EGGS

Before 1941 nearly all of the combined output of farm- and nonfarm-produced eggs of the United States 4/, except those needed for hatching, was used for civilian consumption. But the purchases of eggs and egg products for lend-lease beginning in 1941, and for military purposes in later years, were equivalent to approximately 20 percent of the total farm production of eggs for the period 1941-45.

Average annual per capita consumption during 1935-39 was 298 eggs which was lower than the average rate during the preceding 10 years when droughts did not interfere seriously with production (table 14). The average during 1940-44 of 328 eggs was less than the average during the late 1920's. In 1943, the previous record annual per capita rate of consumption (342 eggs in 1927) was exceeded. In 1945 the record was 397 eggs. But this high civilian consumption during World War II did not hinder the use of large quantities of eggs in hatching nor the heavy procurement of eggs and egg products for military and lend-lease needs 5/.

In the years immediately following World War II, average annual per capita consumption of eggs was reduced below the high level reached in 1945. But, with the exception of 1945, larger numbers of eggs were consumed per person in 1946 and in 1947 than in any earlier year.

PRODUCTIVITY OF LAYERS INCREASED

Hens and pullets on farms increased in number about one-tenth between 1925-29 and 1940-44. Total egg production on farms, though, expanded by about one-third. It is clear that there was definite improvement in the rate of lay of hens and pullets. Specifically, the average annual rate per hen and pullet on farms January 1 increased by one-fifth--from 92 to 110 eggs--between 1925-29 and 1940-44. Using the 1925-29 period as a base with which to compare a situation of a later date does not mean that there had been no change in rate of lay per bird before 1925. Gradual improvement had been achieved but the most rapid increase occurred during the late 1930's and World War II. Laying flocks of the Northeast and Pacific regions produced more eggs per layer during 1940-44 than did flocks in other parts of the country. Table 15 gives further figures.

4/ Nonfarm production of eggs is estimated to be equal to 10 percent of farm production.

5/ Disappearance of eggs and egg products for the military forces was about one-fourth higher, on a per capita basis, during the war than for the civilians.

The rate of egg production of layers has seen some unusual developments recently. The average annual rate of lay per hen and pullet on farms January 1 moved to materially higher levels in several regions between 1944 and 1945, especially in the Corn Belt, the Lake States and the Northern Plains. From 1946 to 1947 the average annual rate of lay in the Northeast increased nearly 16 percent, more than in any other region.

As the rate of lay has increased, especially more recently when the increase has been marked, fewer and fewer layers have been required to produce the same number of eggs. Because of this, the supply of chicken meat from farms became relatively smaller and smaller in comparison with egg production. Since farm chickens are raised primarily for their eggs, this has resulted in relatively smaller supplies of chicken meat. To offset this relative decrease from the farms and to meet an increased demand, the commercial broiler industry has expanded and is now in competition with farm production of chicken meat.

Better performance of layers has come about in several ways. The story behind the progress is a part of the larger one that tells how increased production has been obtained all along the line in agriculture. Development of improved strains of chickens through selection and breeding, more careful control of disease, better sanitation, the widespread adoption of improved feeding practices, and the increasingly common practice of using commercially hatched chicks are involved. A moving force has been the National Poultry Improvement Plan to achieve unification of the programs carried on by the separate States with respect to disease control and improvement of the efficiency of poultry and egg production. A higher proportion of pullets in the flocks now compared with 15 to 20 years ago has helped lift egg production per hen, as birds in the pullet year lay more eggs than they do as hens in their second year. But in spite of progress that has been made, 15 to 20 percent of the birds put into laying houses at the present time die before a year is ended. This death loss is very high compared with the mortality rate of other classes of livestock and is an important item of cost in chicken and egg production.

SMALL FARM FLOCKS FEWER IN NUMBER

Small flocks of chickens continue, because of their number, to be important in the production of chickens and eggs on our farms. Fewer than 50 birds per farm were on one-half of the farms that reported chickens on hand January 1, 1945 (table 16). Less than 100 birds per farm were on 72 percent of the farms. Compared with 1935, though, flocks of less than 100 birds have decreased in number. From 1935 to 1945 a decline of 16 percent in the number of farms reporting chickens 6/ was accompanied by a decrease of 26 percent in the number of farms reporting fewer than 100 birds. In contrast, the farms reporting 100 or more chickens increased 24 percent. Farms reporting the production of eggs in 1934 that had fewer than 100 chickens on hand

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6/ The total number of farms in the United States decreased 14 percent during the same period.

January 1, 1935, produced 37 percent of the total 1934 national farm output of eggs. Farms of the same kind in 1944 accounted for only 26 percent of the total 1944 farm production of eggs in the United States.

The increase in really large-scale production of chickens and eggs from 1935 to 1945 is not indicated by the relative change in the number of flocks of 100 or more chickens. This feature is better shown by the change in the number of flocks of 400 or more birds. Flocks of this size increased in number by 70 percent during the 10 years. Although they represented but 2 percent of all flocks in the United States at the beginning of 1945, they contained one-fifth of all chickens on hand on January 1 of that year. Farms that reported egg production in 1944, and had 400 or more chickens on hand the following January 1, accounted for 24 percent of the total 1944 farm production of eggs.

Flocks of all sizes had larger production of eggs in 1944 than in 1934. Relatively, the increases in production per flock were greatest for flocks with the fewer chickens. Farms reporting production of eggs in 1944 that had less than 50 chickens on January 1, 1945, produced an average of 51 percent more eggs per farm than the same kind of farms did in 1934. The percentage increases in average output per farm of farms reporting 50 or more chickens were:

50 - 99 chickens	33 percent
100 -199 "	38 "
200 -399 "	29 "
400 and over "	22 "

Even though the relative increase in average output of eggs per farm from 1934 to 1944 was larger for farms having small flocks, it was farms with medium- and large-size flocks that accounted for the main part of the absolute expansion of total egg production during the 10-year period. This was the result of the increase in the number of flocks having 100 or more birds while the number of flocks having fewer than 100 birds was decreasing and the much larger average output of eggs of flocks having 100 or more chickens.

Outstanding among changes that occurred in the regional size-of-flock distributions from 1935 to 1945 was the increase in the percentage that flocks of 200 or more chickens was of all flocks in the Northeast, Corn Belt, Lake States, and Northern Plains regions. Flocks of 200 or more birds made up 18 to 22 percent of all flocks in these regions in 1945 compared with only 8 to 12 percent in 1935. The increase in the number of flocks of this size in the Lake States and Northern Plains was enough so that these two regions accounted for a larger proportion of all flocks of 200 or more birds of the United States in 1945 than in 1935 (table 17). There was a pronounced gain from 1935 to 1945 in the percentage of all flocks of 400 or more birds located in the Lake States. In the Mississippi Delta and Southeast regions, small flocks continued to predominate in 1945. However, a shift from flocks of less than 50 birds to flocks of from 50 to 99 chickens took place

between 1935 and that year. Flocks of from 100 to 399 chickens became relatively more important in the Southern Plains and Mountain regions. Little change occurred in the distribution of flocks in the Appalachian and Pacific regions.

SUMMARY AND CONCLUSIONS

Four items stand out among the long-run changes in the production of chickens and eggs in the United States. One is the ever-growing relative importance of the Northeast and Lake States regions to the poultry industry and the slight decline of the Pacific region. The second is the rapid progress made in improving the productivity of laying flocks. The third is the gradual increase of the proportion of eggs produced during the early winter season. A decline in the number of small flocks and an increase in the number of medium and large flocks is a fourth element. A related item, although on the consumption side, is the high level of domestic consumption of chicken meat and eggs that developed and was maintained late in World War II and in the years immediately following.

During 1925-29, the Northeast and the Lake States regions each accounted for 10 percent of the national laying flock. Through the 20-year period ending with 1944, hen and pullet numbers increased in these regions relatively more than in other parts of the country. As a result the Northeast had 12½ percent and the Lake States 12 percent of the national laying flock, during 1940-44. Meanwhile the Pacific region, where, like the Northeast, are located many of the large laying flocks, lost ground and had a slightly smaller relative share of the national laying flock during 1940-44 than during 1925-29. The Corn Belt lost some ground. Since 1940-44 the Northeast and Lake States regions have expanded their shares of the national laying flock. The Pacific region has recovered a part of its earlier position.

One-fourth of the national production of farm chickens and eggs comes from the Corn Belt. Small percentage changes in the production of chickens and eggs in this region have far greater effect upon the poultry industry as a whole than do large percentage changes in any one of the other regions.

Although long-time trends in the production of chickens and eggs have been much alike in the Northeast and the Lake States, chickens occupy distinctly different positions in the agriculture of the two regions. During 1940-44 chickens, including commercial broilers, made up 43 percent of the grain-consuming animal units of the Northeast. This was double the percentage represented by chickens in the Lake States. This suggests that the chicken enterprise in Michigan, Wisconsin, and Minnesota encounters stronger competition from livestock in farm organizations than is true in the Northeast. Competition between chickens and livestock is even keener in the Corn Belt. In that region chickens accounted for only 18 percent of all grain-consuming animal units in 1940-44, the lowest proportion in the United States.

The high national egg production attained during World War II--average annual production in the 1940-44 period was one-third larger than during the preceding 5 years--was partly the result of increased productivity of layers. A national average of 100 eggs had been laid per hen and pullet on farms January 1 in the late 1930's, whereas during 1940-44 the average rate of lay was 110, and in 1945 it reached 118. A sharp increase in 1947 carried the rate to 127.

Laying flocks of the Northeast and Pacific regions had higher rates of lay than flocks in other regions during the early 1940's but the productivity of layers in the Corn Belt and Lake States was being improved rapidly. The average annual rate of lay of hens and pullets in the Lake States was nearly equal to that of the Northeast in 1945. In 1947, though, the rate of 153 in the Northeast was about 9 percent higher than that of the Lake States.

Greater relative improvement in recent years in the productivity of hens and pullets in the Lake States and Corn Belt than in other regions outside the Northeast came from the adoption of better poultry breeding, feeding, and management practices. The relatively more favorable market outlets that developed for Midwest eggs during World War II encouraged farmers and poultrymen of the Lake States and Corn Belt, in particular, to adopt many of the poultry-production practices that are followed by specialized egg producers. Many flocks in these regions are now kept partially or continuously confined.

Progress has been made in increasing the proportion of the annual output of eggs that is produced during the "high-price months"--October through December. During the late 1920's but 12 percent of the average annual output of eggs of the United States was laid in these months. In 1947, 19 percent of the year's production of eggs was laid during this 3-month period. The relative volume of eggs produced during the last quarter of the calendar year has increased in all regions. Most rapid progress has been made in the Northeast and Lake States regions.

Flocks of less than 100 chickens are fewer than in earlier years. Although representing 72 percent of all farm flocks at the beginning of 1945, such flocks had decreased 26 percent in number from 1935 while flocks of all sizes declined only 16 percent in number. During the same period flocks of 100 or more birds increased 24 percent. Farms reporting the production of eggs in 1934 that had fewer than 100 chickens on hand January 1, 1935, produced 37 percent of the total national farm output of eggs in 1934. In 1944, farms of this kind accounted for only 26 percent of all farm produced eggs. The most important change in the size-of-flock distribution in regions between 1935 and 1945 was the increase in the percentage that flocks of 200 or more chickens was of all flocks in the Northeast, Corn Belt, Lake States, and Northern Plains regions.

Civilian per capita consumption of chicken meat has shown no long-time tendency toward consistent increase or decrease. During World War II rather extreme changes occurred in the consumption of this product. Record high civilian consumption of chicken meat per capita was established--the highest figure was nearly 31 pounds in 1943. This rate of consumption was 71 percent above the average rate of 18 pounds in the prewar 1935-39 period.

Civilian consumers use more eggs when their purchasing power is large. Record numbers of eggs were consumed per person by the close of World War II. The all-time record per capita consumption of 397 eggs in 1945 compared with an average of 298 eggs for the 1935-39 period and 328 eggs for the 5 years 1940-44. Per capita consumption of eggs in 1946 and 1947, although less than the 1945 rate, exceeded consumption per person in all other years.

APPENDIX

Table 1.- All chickens: Number (excluding commercial broilers) on farms January 1, by regions and years

Year	Region										United States
	Northeast	Appalachian	Corn Belt	Lake States	Northern Plains	Southern Plains	Mississippi Delta	Southeast	Mountain	Pacific	
	Millions	Millions	Millions	Millions	Millions	Millions	Millions	Millions	Millions	Millions	Millions
Average:											
1925-29	46.2	55.6	130.5	45.0	51.7	38.5	20.5	21.9	13.9	27.8	451.6
1930-34	46.1	52.2	125.6	46.4	50.7	40.0	20.5	21.6	14.9	28.7	446.7
1935-39	48.2	50.0	110.0	45.1	36.9	34.9	20.3	21.6	12.4	25.7	405.1
1940-44	60.8	56.9	128.1	56.1	49.3	46.4	24.8	26.6	15.3	28.2	492.5
1940	54.0	51.1	117.0	48.9	41.8	40.3	22.1	23.7	13.6	25.8	438.3
1941	51.8	49.6	113.2	48.5	40.1	38.3	21.0	22.2	12.8	25.3	422.8
1942	57.0	54.9	125.3	54.4	47.2	45.1	24.3	26.1	14.6	28.0	476.9
1943	66.8	61.3	138.7	61.8	57.5	52.8	27.3	29.2	16.9	29.7	542.0
1944	74.3	67.7	146.4	67.0	59.8	55.6	29.1	31.9	18.4	32.0	582.2
1945	68.1	60.8	129.7	61.3	52.2	48.6	24.2	28.1	15.6	27.9	516.5
1946	73.0	61.5	132.0	63.8	51.9	48.6	24.1	29.6	15.5	30.2	530.2
1947	64.7	55.7	118.7	59.2	47.0	40.5	21.0	26.1	14.0	27.5	474.4
1948 1/	65.9	52.6	116.2	57.9	45.0	39.6	19.6	24.5	13.7	28.0	463.0

1/ Preliminary.

Table 2.- Hens and Pullets: Number on farms January 1, by regions and years

Year	Region										United States
	Northeast	Appalachian	Corn Belt	Lake States	Northern Plains	Southern Plains	Mississippi Delta	Southeast	Mountain	Pacific	
Average:	Millions	Millions	Millions	Millions	Millions	Millions	Millions	Millions	Millions	Millions	Millions
1925-29	42.0	48.9	118.7	41.8	46.2	34.1	17.6	19.0	12.5	25.2	406.0
1930-34	41.7	45.1	112.9	42.5	44.8	35.3	17.1	17.9	13.3	26.2	396.8
1935-39	43.9	43.4	100.4	42.3	33.7	31.3	17.0	17.6	11.3	23.5	364.4
1940-44	55.3	49.3	116.2	53.0	45.0	42.0	20.8	21.7	14.0	25.6	442.9
1940	49.0	44.2	105.4	45.5	37.9	36.4	18.6	19.5	12.4	23.8	392.7
1941	47.5	43.1	103.0	45.7	36.7	34.5	17.6	18.5	11.8	22.9	381.3
1942	52.0	47.4	113.2	51.1	43.0	40.6	20.2	21.4	13.4	25.6	427.9
1943	60.9	53.2	126.6	58.9	52.7	47.9	22.9	23.6	15.5	26.8	489.0
1944	66.9	58.7	132.8	63.5	54.9	50.6	24.6	25.7	16.8	29.1	523.6
1945	63.1	53.7	120.4	59.0	48.8	44.8	20.8	23.2	14.5	25.6	473.9
1946	64.9	53.1	119.5	60.4	48.0	44.1	20.1	23.3	14.2	26.6	474.2
1947	59.6	49.5	110.8	57.3	44.3	37.3	18.0	21.4	13.0	24.5	435.7
1948 1/	61.4	47.3	109.2	56.1	42.3	36.5	16.7	20.1	12.8	25.5	427.9

1/ Preliminary.

Table 3.- Hens and Pullets: Share of total United States numbers on farms January 1, found in each of the 10 regions, by years

Year	Region										United States
	North-east	Appa-lachian	Corn Belt	Lake States	Northern Plains	Southern Plains	Missis-sippi Delta	South east	Mountain	Pacific	
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Average:											
1925-29	10.3	12.1	29.2	10.3	11.4	8.4	4.3	4.7	3.1	6.2	100.0
1930-34	10.5	11.4	28.5	10.7	11.3	8.9	4.3	4.5	3.3	6.6	100.0
1935-39	12.1	11.9	27.6	11.6	9.2	8.6	4.7	4.8	3.1	6.4	100.0
1940-44	12.5	11.1	26.2	12.0	10.2	9.5	4.7	4.9	3.1	5.8	100.0
1940	12.5	11.3	26.8	11.6	9.6	9.3	4.7	5.0	3.2	6.0	100.0
1941	12.5	11.3	27.0	12.0	9.6	9.0	4.6	4.9	3.1	6.0	100.0
1942	12.2	11.1	26.4	11.9	10.1	9.5	4.7	5.0	3.1	6.0	100.0
1943	12.4	10.9	25.9	12.0	10.8	9.8	4.7	4.8	3.2	5.5	100.0
1944	12.8	11.2	25.4	12.1	10.5	9.7	4.7	4.9	3.2	5.5	100.0
1945	13.3	11.3	25.4	12.5	10.3	9.4	4.4	4.9	3.1	5.4	100.0
1946	13.7	11.2	25.2	12.8	10.1	9.3	4.2	4.9	3.0	5.6	100.0
1947	13.7	11.4	25.4	13.1	10.2	8.6	4.1	4.9	3.0	5.6	100.0
1948 1/	14.4	11.0	25.5	13.1	9.9	8.5	3.9	4.7	3.0	6.0	100.0

1/ Preliminary.

Table 4.- Chickens: Number (excluding commercial broilers) raised on farms, by regions and years 1/

Year	Region										United States
	North-east	Appa-lachian	Corn Belt	Lake States	Northern Plains	Southern Plains	Missis-sippi Delta	South-east	Mountain	Pacific	
	Millions	Millions	Millions	Millions	Millions	Millions	Millions	Millions	Millions	Millions	Millions
Average:											
1924-28	69.9	93.8	198.4	65.8	82.5	61.6	31.6	39.1	20.7	38.5	701.9
1929-33	79.6	94.1	206.2	75.5	90.5	61.8	33.3	39.4	22.6	41.6	744.6
1934-38	78.5	88.4	177.8	69.3	68.3	48.9	33.0	37.2	19.0	33.5	653.9
1939-43	94.7	97.0	201.0	85.1	86.0	67.3	40.3	45.8	24.8	42.2	784.2
1939	85.0	88.7	182.1	72.3	74.9	57.7	36.4	41.8	21.5	36.3	696.7
1940	75.5	79.7	168.9	68.3	66.6	50.6	32.7	36.9	19.5	35.0	633.7
1941	85.5	92.9	195.5	79.4	79.6	64.1	39.4	43.6	23.3	41.7	745.0
1942	99.6	103.8	213.0	91.5	98.3	74.4	43.0	48.8	26.9	45.0	844.3
1943	127.9	120.0	245.7	113.7	110.8	89.8	50.0	57.7	32.9	52.9	1001.4
1944	111.4	103.3	207.0	95.7	90.1	70.3	39.6	47.3	25.6	41.8	832.1
1945	124.9	103.3	227.2	111.4	96.6	78.3	42.5	49.5	29.7	51.4	914.8
1946	92.0	90.2	188.1	86.2	83.6	61.5	38.5	44.8	22.8	38.1	745.8
1947 2/	96.1	86.7	191.8	83.7	81.2	60.6	37.2	42.8	23.9	41.4	745.4

1/ Does not include young chickens lost.
2/ Preliminary.

Table 5.- Proportion of total grain-consuming animal units represented by chickens in each of 10 regions, by 5-year periods, 1925-44 1/

Year 2/	Region										
	Northeast	Appalachian	Corn Belt	Lake States	Northern Plains	Southern Plains	Mississippi Delta	Southeast	Mountain	Pacific	United States
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Average:											
1925-29	35.6	30.5	20.4	21.0	18.0	22.7	20.4	20.1	22.0	45.5	23.2
1930-34	36.9	30.0	19.2	21.2	18.3	22.1	19.4	19.1	21.9	43.1	22.6
1935-39	38.3	30.0	19.6	22.0	21.9	21.7	19.1	18.1	22.0	38.4	23.6
1940-44	43.0	32.5	17.5	21.8	22.0	25.5	21.9	21.5	22.1	36.8	23.8

1/ A grain-consuming animal unit is the equivalent of one milk cow in the consumption of grains and other concentrate feeds. Variations in feed requirements of the same class of livestock or poultry in different parts of the country were recognized in the calculation of these data. Grain-consuming animal units of commercial broilers were included with data for chickens.

2/ Data are for the feeding year commencing October 1. The specific period for 1925-29, for instance, is October 1, 1924 to September 30, 1929.

Table 6.- Chickens: Number sold from farms, by regions and years

Year	Region										United States
	North-east	Appa-lachian	Corn Belt	Lake States	Northern Plains	Southern Plains	Missis-sippi Delta	South-east	Mountain	Pacific	
	Millions	Millions	Millions	Millions	Millions	Millions	Millions	Millions	Millions	Millions	Millions
Average:											
1925-29	53.7	44.6	133.9	43.6	50.0	30.0	10.1	13.3	12.0	29.7	420.9
1930-34	59.0	44.3	135.7	49.6	56.7	26.1	10.9	12.8	12.3	28.7	436.1
1935-39	60.2	37.0	111.9	44.6	39.2	17.7	10.7	9.1	10.0	22.7	363.1
1940-44	78.1	51.1	140.4	61.2	58.1	38.2	21.6	19.0	15.8	30.5	514.0
1940	60.6	34.0	107.8	41.7	39.2	23.5	15.0	12.8	11.1	24.1	369.8
1941	62.8	40.9	119.1	47.7	43.4	28.5	16.7	13.3	12.3	27.6	412.3
1942	70.8	49.8	135.5	57.6	58.5	36.2	20.7	18.4	14.9	30.6	493.0
1943	100.7	67.9	177.4	82.8	79.8	56.1	29.9	28.4	22.0	37.9	682.9
1944	95.7	62.6	162.0	76.3	69.5	46.9	25.9	21.8	18.6	32.6	611.9
1945	98.2	55.4	165.1	83.5	69.9	48.5	24.5	19.1	20.7	36.5	621.4
1946	77.9	48.6	144.1	65.6	62.2	40.8	23.4	19.7	15.1	28.6	526.0
1947 1/	74.0	44.9	140.1	61.4	57.5	35.0	21.3	17.2	14.7	29.3	495.4

1/ Preliminary.

Table 7.- Commercial broilers produced, by regions and years

Year	Region										
	Northeast	Appalachian	Corn Belt	Lake States	Northern Plains	Southern Plains	Mississippi Delta	Southeast	Mountain	Pacific	United States
	Millions	Millions	Millions	Millions	Millions	Millions	Millions	Millions	Millions	Millions	Millions
1934	6.4	13.1	6.3	0.6	0.5	2.5	1.7	1.3	0.0	1.6	34.0
Average:											
1935-39	10.5	31.1	8.9	1.2	0.6	4.6	5.2	3.7	0.2	4.4	70.4
1940-44	24.6	110.7	20.4	4.7	0.9	12.0	15.5	22.4	0.5	10.8	222.5
1940	17.0	70.9	14.9	3.0	0.8	8.2	10.1	10.2	0.4	7.3	142.8
1941	20.3	98.2	18.5	4.0	0.8	9.9	15.9	14.7	0.4	8.8	191.5
1942	24.6	117.6	20.3	4.8	0.9	13.2	14.5	21.1	0.6	10.6	228.2
1943	32.2	139.2	26.0	5.6	1.0	15.4	19.6	30.7	0.8	14.8	285.3
1944	29.2	127.8	22.2	5.8	0.9	13.4	17.2	35.5	0.5	12.5	265.0
1945	40.4	169.2	28.0	6.8	1.1	14.9	21.4	43.9	0.7	19.2	345.6
1946	31.5	132.2	22.5	6.5	0.7	13.3	19.5	36.1	0.5	12.8	275.6
1947 1/	29.0	135.4	22.3	6.0	0.8	11.3	19.2	42.6	0.5	16.0	283.1

1/ Preliminary.

Table 8.- Chicken meat: Total production and civilian consumption, United States, by years

Year	Total production	Civilian consumption	
		Total	Per capita
	Million pounds (Dressed weight)	Million pounds	Pounds
Average:			
1925-29	2,391	2,392	20.1
1930-34	2,496	2,499	19.9
1935-39	2,327	2,327	17.9
1940-44	3,312	3,144	24.0
1940	2,514	2,483	18.7
1941	2,789	2,715	20.5
1942	3,241	3,097	23.4
1943	4,135	3,959	30.6
1944	3,879	3,467	26.8
1945	4,170	3,742	28.9
1946	3,568	3,513	25.3
1947 1/	3,445	3,337	23.3

1/ Preliminary.

Table 9.- Eggs: Proportion of annual farm output produced during the 3 months, October through December, United States, by years

Year	Percentage
	Percent
Average:	
1925-29	12.3
1930-34	12.9
1935-39	15.1
1940-44	17.0

Table 10.- Average weighted prices received by farmers for chickens and eggs, United States, by years 1/

Year	Eggs	Chickens
	Cents per dozen	Cents per pound
Average:		
1925-29	28.5	21.5
1930-34	17.3	13.4
1935-39	20.8	15.1
1940-44	28.2	19.3
1935	23.4	14.9
1936	21.8	15.8
1937	21.3	15.9
1938	20.3	15.4
1939	17.4	13.5
1940	18.0	13.2
1941	23.5	15.8
1942	30.0	19.0
1943	37.1	24.5
1944	32.5	24.0
1945	37.7	26.1
1946	37.5	28.0
1947 2/	45.3	26.8

1/ Annual data to 1945 from processed report "Poultry Ration Costs and Poultry-Feed Price Ratios, 1924-25" published March 1946 by the Bureau of Agricultural Economics. Data for 1945 from processed report "Farm Production, Disposition, Cash Receipts and Gross Income--Chickens and Eggs, 1945-46" published April 1947 by that Bureau. Data for 1946 and 1947 from processed report "Farm Production, Disposition, Cash Receipts and Gross Income--Chickens and Eggs, 1946-47" published April 1948.

2/ Preliminary.

Table 11.- Eggs: Number produced on farms, by regions and years

Year	Region										United States
	North-east	Appa-lachian	Corn Belt	Lake States	Northern Plains	Southern Plains	Missis-sippi Delta	South-east	Mountain	Pacific	
	Billions	Billions	Billions	Billions	Billions	Billions	Billions	Billions	Billions	Billions	Billions
Average:											
1925-29	4.6	4.1	10.5	4.0	4.1	3.0	1.3	1.5	1.3	3.1	37.5
1930-34	4.8	3.8	10.0	4.2	3.9	2.9	1.2	1.4	1.3	3.3	36.8
1935-39	5.6	3.8	9.5	4.5	3.1	2.9	1.3	1.4	1.2	3.1	36.4
1940-44	7.5	4.8	12.6	6.3	4.8	4.2	1.6	1.8	1.6	3.4	48.6
1940	6.3	4.0	10.4	5.0	3.6	3.3	1.3	1.5	1.3	3.0	39.7
1941	6.6	4.2	11.1	5.4	3.9	3.5	1.4	1.5	1.3	3.0	41.9
1942	7.3	4.9	12.7	6.3	4.9	4.2	1.6	1.8	1.6	3.3	48.6
1943	8.2	5.4	14.1	7.2	5.6	4.7	1.8	2.1	1.8	3.6	54.5
1944	9.0	5.8	15.0	7.8	5.9	5.2	1.8	2.1	1.9	4.0	58.5
1945	8.4	5.6	14.6	7.8	5.7	4.9	1.7	1.9	1.7	3.6	55.9
1946	8.6	5.6	14.5	8.1	5.6	4.4	1.6	1.9	1.7	3.6	55.6
1947 1/	9.1	5.5	14.4	8.0	5.7	4.1	1.4	1.8	1.7	3.6	55.3

1/ Preliminary.

Table 12.- Eggs: Share of total United States farm output produced in each of 10 regions, by years

Year	Region										United States
	Northeast	Appalachian	Corn Belt	Lake States	Northern Plains	Southern Plains	Mississippi Delta	Southeast	Mountain	Pacific	
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Average:											
1925-29	12.3	11.1	28.0	10.5	11.0	8.1	3.5	3.9	3.4	8.2	100.0
1930-34	13.1	10.3	27.2	11.3	10.5	8.0	3.2	3.7	3.7	9.0	100.0
1935-39	15.3	10.5	26.3	12.2	8.6	8.0	3.5	3.8	3.3	8.5	100.0
1940-44	15.4	10.0	26.0	13.0	9.8	8.6	3.2	3.7	3.3	7.0	100.0
1940	15.9	10.1	26.3	12.6	9.0	8.3	3.2	3.7	3.3	7.6	100.0
1941	15.7	10.0	26.4	12.8	9.3	8.4	3.3	3.6	3.2	7.3	100.0
1942	15.1	10.1	26.2	13.0	10.1	8.6	3.2	3.6	3.2	6.9	100.0
1943	15.1	10.0	25.8	13.2	10.3	8.7	3.2	3.8	3.2	6.7	100.0
1944	15.4	9.8	25.6	13.4	10.1	8.9	3.1	3.6	3.3	6.8	100.0
1945	15.0	10.0	26.2	13.9	10.2	8.7	3.0	3.5	3.1	6.4	100.0
1946	15.5	10.1	26.0	14.6	10.1	7.9	2.8	3.4	3.1	6.5	100.0
1947 1/	16.5	10.0	26.0	14.4	10.2	7.5	2.6	3.2	3.1	6.5	100.0

1/ Preliminary.

Table 13.- Eggs: Proportion of total annual regional farm output produced during the 3 months, October through December, by years

Year	Region										United States
	Northeast	Appalachian	Corn Belt	Lake States	Northern Plains	Southern Plains	Mississippi Delta	Southeast	Mountain	Pacific	
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Average:											
1925-29	13.0	13.1	11.1	11.2	10.9	13.3	11.5	11.6	13.7	16.5	12.3
1930-34	15.0	13.8	12.1	12.1	10.8	12.9	11.3	12.2	12.6	15.8	12.9
1935-39	17.9	15.2	14.1	15.1	13.1	14.2	12.1	13.6	15.2	17.9	15.1
1940-44	21.4	16.8	16.3	17.6	14.5	14.7	12.6	14.4	16.2	18.8	17.0
1940	20.3	16.5	15.4	16.6	13.4	14.3	12.2	13.9	15.6	18.1	16.2
1941	22.0	17.9	17.1	17.8	15.6	14.6	12.5	15.1	17.1	19.4	17.6
1942	22.3	17.1	16.7	18.3	14.8	15.5	12.8	14.4	16.5	19.3	17.5
1943	21.2	16.2	16.3	17.3	14.2	14.7	13.1	14.5	16.0	18.9	16.8
1944	21.3	16.4	16.2	17.6	14.7	14.6	12.3	14.1	15.9	18.2	16.8
1945	22.3	16.2	16.7	17.8	14.6	14.0	12.1	14.7	16.9	19.5	17.2
1946	22.4	17.5	18.1	18.9	16.0	14.6	12.3	14.7	16.9	19.6	18.1
1947 1/	23.8	17.1	18.7	19.7	15.9	15.1	13.1	13.7	18.0	22.2	18.9

1/ Preliminary.

Table 14.- Eggs: Civilian consumption, United States, by years

Year	Civilian consumption 1/	
	Total	Per capita
	Billions	Number
Average:		
1925-29	39.8	334
1930-34	39.0	311
1935-39	38.7	298
1940-44	43.0	328
1940	42.1	317
1941	41.2	311
1942	41.8	316
1943	44.9	346
1944	45.2	350
1945	51.5	397
1946	52.1	374
1947 2/	54.4	380

1/ These data would be slightly lower if adjusted for breakage of eggs between farm and retail outlets. For an indication of the adjustment that would be made in per capita rates of consumption see table 1 of processed report, "Nutritive Value of Per Capita Food Supply, 1909-45", issued June 1946 by Bureau of Human Nutrition and Home Economics in cooperation with Bureau of Agricultural Economics.

2/ Preliminary.

Table 15.- Eggs: Average annual rate of lay per hen and pullet on farms January 1, by regions and by years

Year	Region										
	Northeast	Appalachian	Corn Belt	Lake States	Northern Plains	Southern Plains	Mississippi Delta	Southeast	Mountain	Pacific	United States
	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number
Average:											
1925-29	110	85	88	94	89	90	74	77	102	122	92
1930-34	116	84	89	98	86	83	68	75	101	126	93
1935-39	127	88	95	105	93	92	74	79	108	132	100
1940-44	136	98	109	119	106	99	75	82	113	132	110
1940	128	91	99	110	94	90	70	76	106	127	101
1941	139	97	107	117	106	102	78	82	113	133	110
1942	141	104	113	123	114	102	78	83	116	130	114
1943	135	102	111	122	107	99	77	86	114	136	112
1944	135	98	113	123	108	103	75	81	115	136	112
1945	133	104	121	132	117	108	80	84	119	141	118
1946	133	105	121	134	117	100	78	80	122	135	117
1947 1/	153	112	130	140	127	111	80	84	131	147	127

1/ Preliminary.

Table 16.- Farm chicken flocks: Percentage distribution of farms by size of flock on January 1, United States and by regions, 1935 and 1945 1/

Number of chickens on hand January 1 2/	Region										United States
	North-east	Appa-lachian	Corn Belt	Lake States	Northern Plains	Southern Plains	Missis-sippi Delta	South-east	Mountain	Pacific	
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
	1945										
Under 50	48.6	64.1	25.0	28.0	15.9	43.2	75.5	79.7	51.8	66.7	49.6
50 - 99	17.9	24.5	23.9	22.5	24.4	26.7	18.8	15.3	24.7	16.2	22.0
100-199	14.1	8.7	32.8	27.7	38.1	20.8	4.8	3.7	15.4	7.0	17.8
200-399	9.8	2.1	16.0	18.2	19.6	8.1	0.7	0.9	5.6	4.0	8.4
400 and over	9.6	0.6	2.3	3.6	2.0	1.2	0.2	0.4	2.5	6.0	2.2
All flocks	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	1935										
Under 50	51.8	68.1	30.2	39.2	33.6	64.6	86.8	87.0	63.3	63.9	58.4
50 - 99	22.2	22.8	29.5	30.4	31.4	22.6	10.8	10.4	22.7	16.4	22.3
100-199	14.1	7.3	29.1	22.5	26.7	10.2	2.0	1.8	9.7	8.3	13.8
200-399	7.4	1.4	10.0	6.9	7.7	2.3	0.3	0.5	2.9	5.1	4.4
400 and over	4.5	0.4	1.2	1.0	0.6	0.3	0.1	0.3	1.4	6.3	1.1
All flocks	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

1/ Data compiled from Special Report 1945 Sample Census of Agriculture, U. S. Census.
2/ Chickens over 4 months old in 1945; over 3 months old in 1935.

Table 17.- Farm chicken flocks: Proportion of all flocks of the United States of specified sizes reported in each of 10 regions, 1935 and 1945 1/

Number of chickens on hand January 1 2/	Region										
	North-east	Appa-lachian	Corn Belt	Lake States	Northern Plains	Southern Plains	Missis-sippi Delta	South-east	Mountain	Pacific	United States
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
	1945										
Under 50	6.8	24.5	9.5	5.0	2.3	8.7	15.7	18.5	3.5	5.5	100.0
50 - 99	5.7	21.1	20.4	9.2	7.9	12.1	8.8	8.0	3.8	3.0	100.0
100-199	5.5	9.3	34.7	13.9	15.2	11.7	2.8	2.4	2.9	1.6	100.0
200-399	8.1	4.7	35.7	19.2	16.4	9.6	0.9	1.2	2.2	2.0	100.0
400 and over	30.2	5.5	19.8	14.6	6.3	5.5	1.1	2.1	3.8	11.1	100.0
All flocks	7.0	19.0	18.8	8.9	7.1	9.9	10.3	11.5	3.4	4.1	100.0
	1935										
Under 50	6.5	21.4	9.6	5.9	4.1	11.7	16.2	16.9	3.8	3.9	100.0
50 - 99	7.3	18.7	24.5	11.9	10.2	10.7	5.3	5.3	3.5	2.6	100.0
100-199	7.5	9.7	39.1	14.3	14.0	7.8	1.6	1.5	2.4	2.1	100.0
200-399	12.3	5.6	41.9	13.8	12.5	5.5	0.8	1.2	2.3	4.1	100.0
400 and over	30.7	5.9	20.2	8.0	4.2	2.8	0.8	2.4	4.4	20.6	100.0
All flocks	7.3	18.3	18.5	8.8	7.2	10.6	10.9	11.4	3.5	3.5	100.0

1/ Data compiled from Special Report 1945 Sample Census of Agriculture, U. S. Census.
2/ Chickens over 4 months old in 1945; over 3 months old in 1935.

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